

1. A vehicle system comprising:

(A) a control system for an equipment service vehicle comprising:

5 (1) a power source,

(2) a power transmission link,

(3) a plurality of input devices,

(4) a plurality of output devices,

(5) a plurality of microprocessor-based interface modules and a communication network, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and the plurality of output devices, and the plurality of interface modules storing I/O status information for the plurality of input devices and the plurality of output devices; and

20 (B) a personal digital assistant,

wherein the control system is configured to wirelessly communicate at least some of the I/O status information to the personal digital assistant.

25 2. The vehicle system according to claim 1, wherein the control system is configured to receive commands from the personal digital assistant and adjust output states of individual ones of the plurality of output devices in response to the commands, thereby allowing the personal digital assistant to manipulate the output states of the plurality of output devices.

30 3. The vehicle system according to claim 1, wherein the output states of multiple output devices are manipulated automatically and the personal digital assistant is configured to generate a report comprising information about whether the output states of the multiple output devices are within acceptable operating parameters.

4. The vehicle system according to claim 1, wherein the personal digital assistant is configured to generate a report based on the I/O status information.

5. The vehicle system according to claim 4, wherein the report comprises information pertaining to the utilization of the vehicle during a particular period of time.

6. The vehicle system according to claim 4, wherein the report comprises information pertaining to the loading of the vehicle during a particular period of time.

10 7. The vehicle system according to claim 1, wherein the I/O status information is communicated by way of an encrypted wireless communication link.

15 8. The vehicle system according to claim 1, wherein the I/O status information is wirelessly communicated directly from the control system to the personal digital assistant.

9. The vehicle system according to claim 1, wherein the personal digital assistant is configured to receive input using a touch-screen.

10. The vehicle system according to claim 1, wherein the personal digital assistant is configured to display the I/O status information on a display.

20 11. The vehicle system according to claim 1,
wherein each of the plurality of interface modules broadcasts I/O status information pertaining to the respective input and output devices coupled to each respective interface module to the remaining interface modules; and
wherein each of the plurality of interface modules maintains an I/O status
25 table, the I/O status table storing I/O status information for the plurality of input devices and the plurality of output devices.

12. The vehicle system according to claim 1, wherein output states of the plurality of output devices are determined at the respective interface module

to which the output device is coupled based, at least in part, on input status information stored at the respective interface module.

13. The vehicle system according to claim 1, wherein the plurality of interface modules are distributed throughout the vehicle, and each respective 5 interface module is locally disposed with respect to the respective input and output devices to which the respective interface module is coupled, so as to permit distributed data collection from the respective input devices to the respective interface module and distributed power distribution from the respective interface module to the respective output devices.

10 14. A system comprising:

(A) a fleet of equipment service vehicles, each vehicle in the fleet of vehicles comprising a control system that comprises

- (1) a power source,
- (2) a power transmission link,
- (3) a plurality of input devices,
- (4) a plurality of output devices,
- (5) a plurality of microprocessor-based interface modules and a communication network, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and the plurality of output devices, and the plurality of interface modules storing I/O status information for the plurality of input devices and the plurality of output devices; and

(B) a personal digital assistant,

30 wherein the personal digital assistant is capable of being connected to receive I/O status information from each vehicle in the fleet of vehicles by way of a wireless communication network, the personal digital assistant being

capable of generating a report that compares utilization information for each of the vehicles.

15. The system according to claim 14, wherein the personal digital assistant generates the report based on distance traveled by each of the vehicles
5 in the fleet of equipment service vehicles.

16. The system according to claim 14, wherein the personal digital assistant generates the report based on distance traveled by at least one vehicle in the fleet of equipment service vehicles.

17. The system according to claim 14, wherein the personal digital
10 assistant generates the report based on engine utilization time of the vehicles in the fleet of equipment service vehicles.

18. The system according to claim 14, wherein the personal digital assistant generates the report based on on-site time of the vehicles in the fleet of equipment service vehicles.

15 19. The system according to claim 14, wherein the vehicle comprises a plurality of vehicle subsystems, and groups of output devices are compared to indicate relative usage of particular vehicle subsystems.

20 20. The system according to claim 14,
wherein each of the plurality of interface modules broadcasts I/O status information pertaining to the respective input and output devices coupled to each respective interface module to the remaining interface modules; and
wherein each of the plurality of interface modules maintains an I/O status table, the I/O status table storing I/O status information for the plurality of input devices and the plurality of output devices.

25 21. The system according to claim 14, wherein output states of the plurality of output devices are determined at the respective interface module to which the output device is coupled based, at least in part, on input status information stored at the respective interface module.

22. The system according to claim 14, wherein the plurality of interface modules are distributed throughout the vehicle, and each respective interface module is locally disposed with respect to the respective input and output devices to which the respective interface module is coupled, so as to 5 permit distributed data collection from the respective input devices to the respective interface module and distributed power distribution from the respective interface module to the respective output devices.

23. A system and method for wirelessly manipulating an equipment service vehicle comprising:

10 the equipment service vehicle comprising a control system which includes:

- (1) a power source,
- (2) a power transmission link,
- (3) a plurality of input devices,
- 15 (4) a plurality of output devices,
- (5) a plurality of microprocessor-based interface modules and a communication network, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and the plurality of output devices, and the plurality of interface modules storing I/O status information for the 20 plurality of input devices and the plurality of output devices; and

25 the method comprising:

30 communicating at least some of the I/O status information from the control system to a personal digital assistant, the I/O status information being communicated wirelessly to the personal digital assistant;

communicating a command from the personal digital assistant to the control system.

24. The system and method of claim 23, wherein the communicating a command step further comprises adjusting an output state of one of the plurality of output devices in response to the command.

25. The system and method of claim 23, further comprising at least 5 one of the personal digital assistant and the control system automatically manipulates output states of multiple output devices in response to at least one command.

26. The system and method of claim 23, further comprising generating 10 a report comprising information pertaining to the utilization of the vehicle during a particular period of time.

27. The system and method of claim 26, further comprising generating a trip report.

28. A vehicle system comprising:
(A) an equipment service vehicle including a control system which 15 comprises:
(1) a power source,
(2) a power transmission link,
(3) a plurality of input devices,
(4) a plurality of output devices,
20 (5) a plurality of microprocessor-based interface modules and a communication network, the plurality of interface modules being coupled to the power source by way of the power transmission link, the plurality of interface modules being interconnected to each other by way of the communication network, each of the plurality of interface modules being coupled to respective ones of the plurality of input devices and the plurality of output devices, and the plurality of interface modules storing I/O status information for the plurality of input devices and the plurality of output devices; and
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(B) a portable handheld off-board computer including a display and an operator input device;

wherein the off-board computer is configured to be locally disposed relative to the equipment service vehicle and to communicate wirelessly with the
5 control system.

29. The vehicle system of claim 28, wherein the off-board computer is a personal digital assistant.

30. The vehicle system of claim 28, wherein the off-board computer is configured to communicate directly with the control system up to a range of
10 approximately one mile.

31. The vehicle system of claim 30, wherein the off-board computer is configured to communicate directly with the control system up to a range of approximately 1000 feet.